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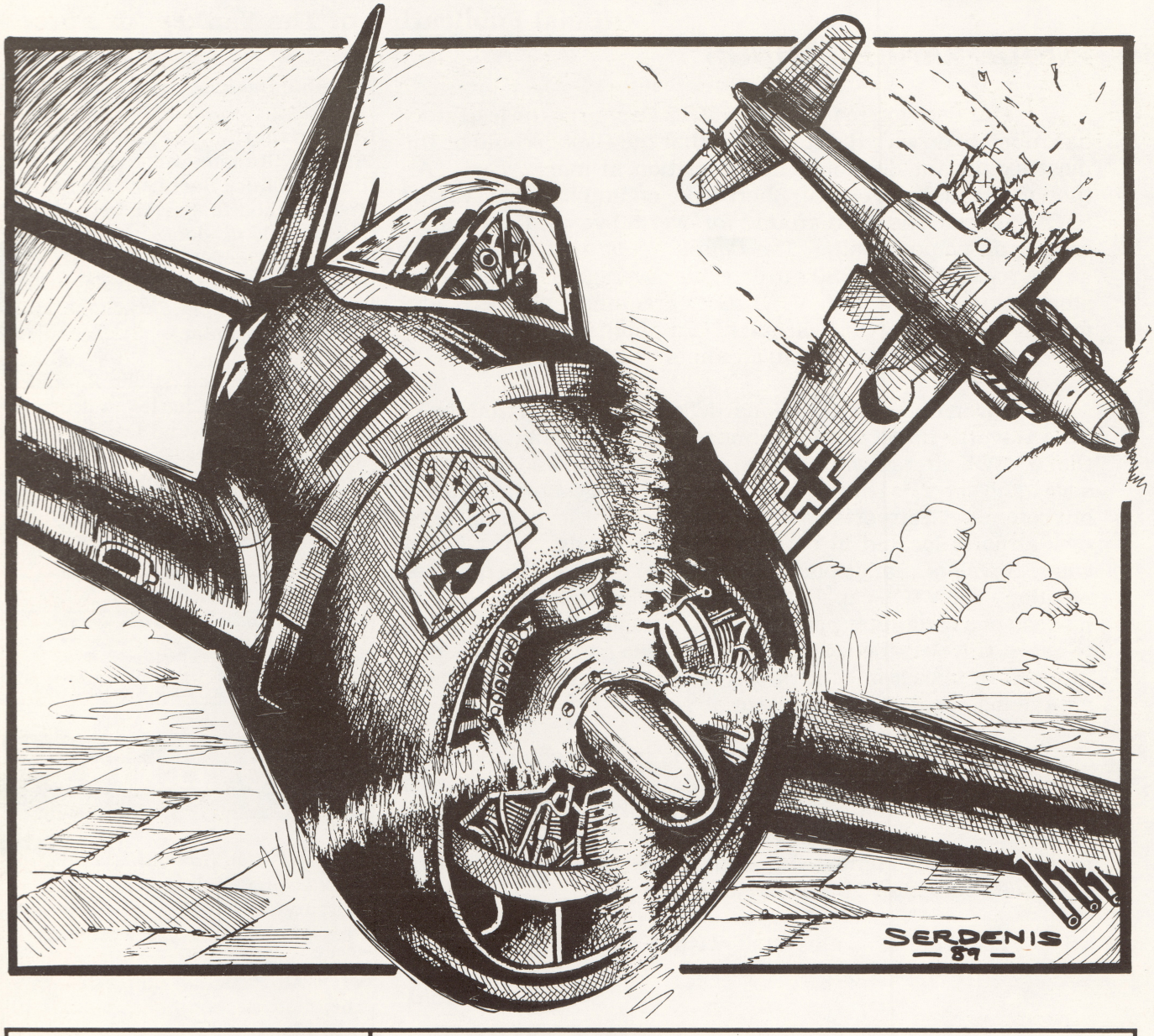
Yankee WINGS

THE MAGAZINE OF THE YANKEE AIR FORCE



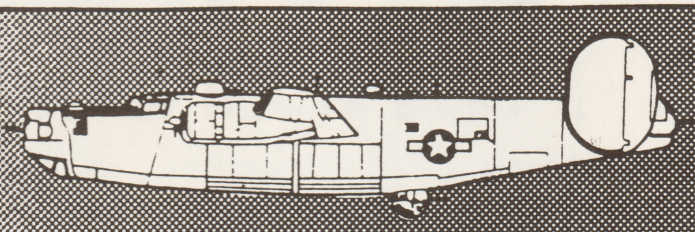
YANKEE AIR FORCE

Also in this issue...

- ✪ **V-22 Osprey**
- ✪ **Mercury BT-120 "Aeorbat"**
- ✪ **President-Elect George Whitfield**

...and more!

Yankee WINGS



Official Publication of The Yankee Air Force ©

INSIDE YANKEE WINGS

Our decision to feature the V-22 *Osprey* as the lead story has much to do with the conviction that the *Osprey* could be the most significant development in aviation in many years. Although the idea of Vertical/Short Take-off and Landing (VTOL/STOL) aircraft has been around for over 50 years, it has never caught on commercially. *The Detroit News* used two Pitcairn autogyros in the late 1930's to expedite coverage of fast-breaking stories, but after WW II VTOL/STOL requirements were adequately provided by the helicopter. Our photo spread gives some indication of the VTOL/STOL attempts which were made.

Given the current national deficit, and the fact that the V-22 is a favorite target of defense budget cutters, one may conclude that a VTOL aircraft will again be cut off. What could ultimately save it, however, is the need for alleviating congestion at many of our commercial airports. When some are calling for several large, new airports located in remote areas, to act as "super hubs" where travelers change planes, the *Osprey* represents a different solution - the VTOL capability of a helicopter and the speed and payload of a commuter plane. It could be a more efficient means to move travelers between city centers *without* using existing airports, or in case of longer trips, to effect a change of planes at a more distant, but less crowded airport.

Other subjects featured in this issue include our new President-elect, and a little-known aircraft in **Bob Pauley's** "Michigan's Aviation Heritage" series. We are also printing again a YAF membership form, with the hope that it will be given to that friend you've been telling about the Yankee Air Force - the one who said,"Sometime I'll have to join it."

The *Yankee Wings* staff wishes one and all a Merry Christmas and a Happy New Year.

- Jim Hanford

ON THE COVER

Artist **Jim Serdenis** presents the business end of the Republic P-47 *Thunderbolt.*

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CONTENTS

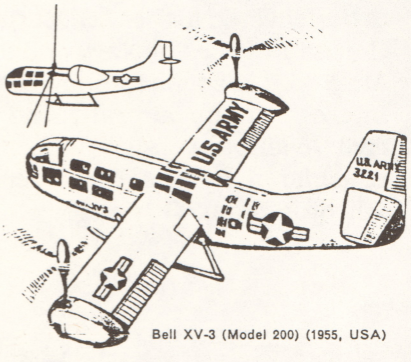
Editorial - *Jim Hanford*..... 2
V-22 Osprey-*Dick Melton*..... 3
MercuryAerobat-*Robert Pauley*.... 5
President-elect George Whitfield.. 8
Tail Spins-*Jack Stankrauff*..... 9
VTOL Aircrafts-*Jim Hanford*..... 9
The Photo Section..... 10
Board Report..... 12
Museumology-*Brian Rogers*..... 13
Restoration News..... 14
Letters to the Editor..... 15
YAF People..... 16
Membership Report-*Charlie Lingenfelter*..... 16
Obituaries..... 16
YAF Membership Application..... 17
Division News..... 19
Calendar..... 20

V-22 OSPREY
A New Kind of Bird

By Dick Melton

On March 19, 1989, a unique aircraft rose vertically into the late morning ground haze of Bell Helicopter Textron's Arlington, Texas Flight Research Center... and a new chapter in American aviation history began.

The aircraft was the first



Bell XV-3 (Model 200) (1955, USA)

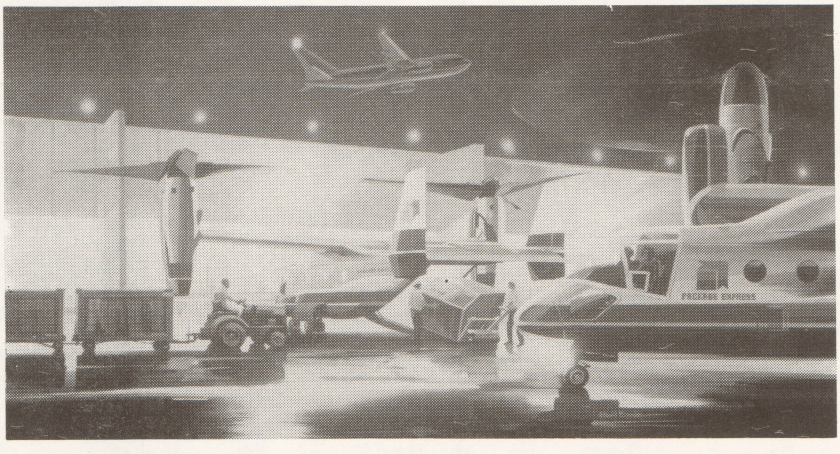
prototype of the revolutionary Bell-Boeing V-22 *Osprey* tiltrotor - a design that combines the best qualities of a helicopter and a conventional turboprop airplane. Like a helicopter, the V-22 has vertical takeoff and hovering capabilities. And it provides the high-speed cruise flight and superior fuel effeciency of a fixed-wing turboprop airplane.

The Bell-Boeing tiltrotor can operate in three overlapping flight phases - helicopter flight, transitional flight and airplane flight. With its two engine nacelles tilted vertically, the *Osprey* can take off straight up and hover like a helicopter. In transition, the proprotors are tilted forward gradually to allow the aircraft's wing to generate lift by moving ahead through the air. As the transitional phase progresses, the proprotors act more and more like propellors and less like helicopter rotors. Finally the engine nacelles reach the horizontal position and the *Osprey* flies as a true airplane. The transitional process can be reversed so the proprotors will function like helicopter rotors for hover and controlled vertical descent and landing. With both engine nacelles horizontal, the V-22 also can operate as an STOL (short takeoff and landing) airplane.

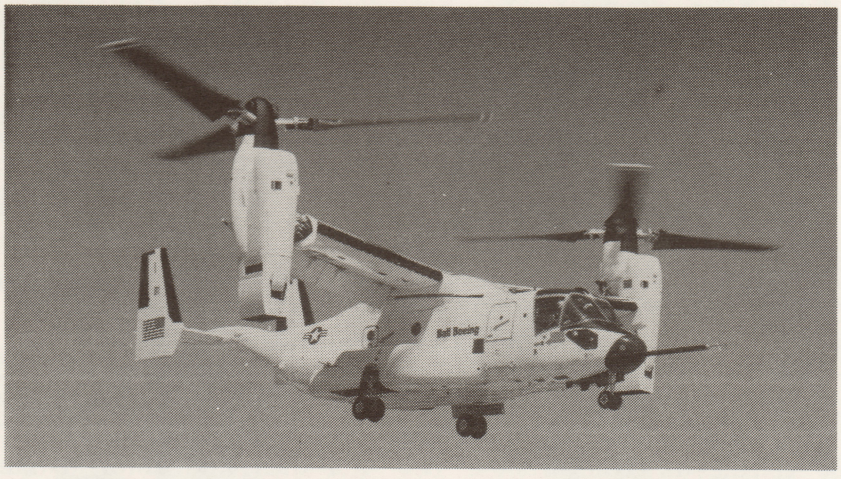
The efficiency and versatility of the Bell-Boeing *Osprey* was made possible by the application of three "high tech" technologies never before combined into a single aircraft. These technologies are tiltrotor, digital electronic fly-by-wire flight controls and the use of carbon-epoxy laminate composite materials for structural members. Each technology in itself is a challenge; combining all three in one aircraft represents a major advance in aeronautical design and engineering.

Improvements in tiltrotor aerodynamics, handling qualities and rotor dynamics make it possible for the *Osprey's* twin 3-bladed, 38-foot diameter graphite/fiberglass rotors to retain high speed stability and provide predictable handling qualities in all flight conditions.

Computerized digital flight management and fly-by-wire flight control systems mix helicopter and fixed-wing control functions, while having advanced features for tailored control sensitivity. Each flight control system has three separate control actuaing "paths". If the primary circuit fails, there are two back-up systems standing by to take over and provide full control. During transition from helicopter to airplane flight, the flight controls automatically



Besides varied military applications, tiltrotor aircraft have great potential for use in civil aviation. Some of these uses include center-to-city center commuter travel, off-shore oil rig support and anti-drug efforts. Shown here is a V-22 Osprey variant being used in package express delivery. (Artist concept by Bill Dale)

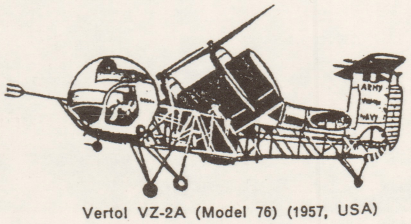


Aircraft #1 completed the first phase of the more than 4,000 hour flight test program without a problem. A total of nine flights were made during this phase for a total of 2.3 flight hours. Following this first phase, the aircraft underwent a planned inspection and preperation for the next flight phase which calls for the aircraft to fly in airplane mode. (Bell Helicopter Textron Photo)

transition to conventional elevator, rudders, and "flaperons" to control the V-22's pitch, yaw, and roll.

In the helicopter flight phase, the V-22 can fly at a forward speed of more than 125 mph. It also can fly sideward or rearward at more than 40 mph...or forward at nearly 230 mph in the transitional phase. As an airplane, it can cruise economically at 300 mph or reach dash speeds of more than 340 mph.

The *Osprey* is 57 feet 4 inches long and 84 feet 7 inches wide with the proprotors turning. It tips the scales at an empty weight of 31,818 lbs. or an operating weight of 32,623 lbs. It is capable of vertical takeoff at 47,500 lbs., carrying a payload of well over seven tons. With the added lift provided by a short running takeoff of about 500 feet, the *Osprey* can lift off at 55,000 lbs. with a payload of nearly 12 tons.

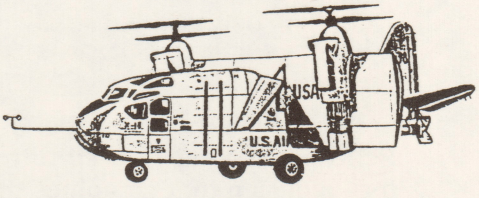


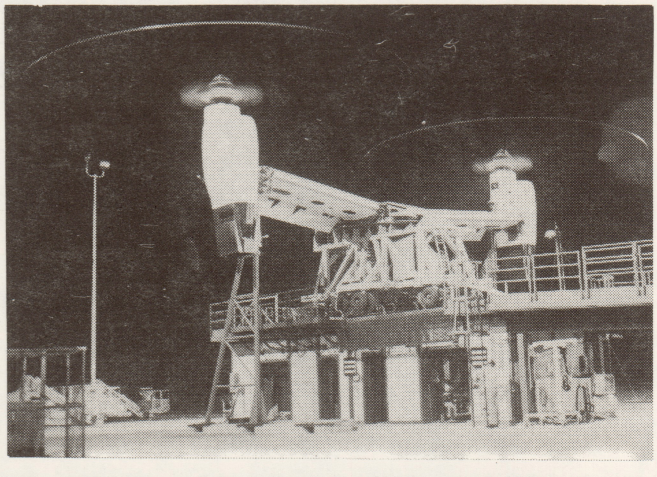
Vertol VZ-2A (Model 76) (1957, USA)

The *Osprey's* power plants are Allison T406-AD-400 turboshaft engines, each delivering up to 6,150 shaft horsepower at sea level. The engines and their transmissions are enclosed in nacelles at the *Osprey's* wingtips. The transmissions are connected to an interconnecting driveshaft. If either engine's output should drop, the driveshaft is engaged to transfer power from the other engine so both proprotors provide balanced thrust.

The Bell-Boeing Tiltrotor Team is backed by more than 60 years of combined tiltrotor experience. Boeing Helicopters built the world's first tiltwing aircraft, the Vertol 76. This unusual aircraft made its first in-flight conversion from helicopter to airplane mode in July, 1958. Bell built the world's first successful tiltrotor aircraft, the Bell XV-3, which made its first in-flight helicopter to airplane conversion in December, 1958. Bell also made two models of the XV-15 tiltrotor research aircraft in the late 1970's. To date, Bell's XV-15's have flown more than 650 hours and have made more than 1,800 in-flight conversions to demonstrate the tiltrotor concept.

The *Osprey* is scheduled to be delivered to the U.S. Marine Corps in 1992. The Navy and the Air Force also have shown an interest in the aircraft, and a civil aviation version is being considered by the Bell-Boeing Tiltrotor Team. ✪

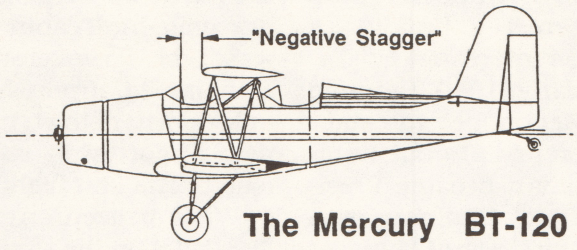




The V-22 Ground Test Article (GTA), consisting of a wing, nacelles, engines, rotors, drive system and avionics and flight control system, is used to support V-22 full scale development ground, static and fatique testing. During such tests, the GTA is secured to an elevated platform which allows full nacelle conversion to take place. Currently, the GTA has nearly 200 hours of "flight" time. (Bell Helicopter Textron Photo)

Michigan's Aviation Heritage

by ROBERT F. PAULEY



The Mercury BT-120 "Aerobat"

"Negative Stagger" is an aeronautical term used to describe a unique form of biplane, one in which the upper wings are located further aft than the lower wings. In a conventional biplane with "positive stagger" the upper wings are located in-line with, or slightly forward of the lower wings for aerodynamic reasons. This configuration allows the aircraft designer to maintain the correct relationship between the center of gravity of the airplane and the center of lift of the wings. A typical example of a "positive stagger" biplane is the well-known World War Two trainer, the Stearman PT-13 Kaydet.

Very few airplanes have incorporated the principle of negative stagger in their wing arrangement. Perhaps the best known example is the pre-war Beechcraft Model 17, known universally as the Beech "Staggerwing". Beech incorporated "negative stagger" into the design of this four-place cabin biplane for a number of reasons. First of all, by moving the lower wings forward they were able to design a main landing gear that could retract flush into the lower wings. This, of course, was a conventional type of landing gear and was many years before the widespread use of the tricycle type of landing gear. And by moving the upper wings aft of the lower wings, Beech was able to maintain the center of gravity and lift relationship. A bonus derived from this arrangement was the improved forward and upwards visibility afforded the pilot due to the aft placement of the upper wing. Thus the famous Beech 'Staggerwing" was created and over 700 were built between the years 1932, when thej prototype first flew, and 1948, when production came to an end. Today the Staggerwing is one of the most coveted and sought after antique biplanes, in part due to its distinctive and unique negative wing stagger arrangement.

Less well known is a Michigan-built airplane that also featured negative stagger, a pretty little airplane known as the Mercury BT-120 "Aerobat". Built in the early 1940's the Aerobat was designed to meet the requirements of the Civilian Pilot Training Program (CPTP) for a basic aerobatic trainer. It was built by the Mercury Aircraft Company in the Upper Peninsula city of Menominee.

The Mercury Aerobat had its origins in Knoxville, Tennessee where the prototype was built by the Bauman Aircraft Corporation in 1938. The original was a two-place cabin biplane with side-by-side seating that had been designed and built by Jack Bauman, a young engineer who had graduated from the University of Tennessee in 1935. It was known as the Bauman B-100 and carried the registration NX-18160. The powerplant was an Allied "Monsoon", a four cylinder, inverted, in-line air-cooled engine producing 100 hp at 2800 rpm. This engine was a French Regnier B4D built under license in this country by Allied Aviation Corporation of Van Nuys, California. The Bauman B-100 used a conventional type of landing gear, not a tricycle type, and the main wheels retracted flush into the lower wings. This was very similar to the arrangement used on the Beech Staggerwing. The Bauman flew successfully but with only 100 hp available it was a bit underpowered, especially with a full load. Engineer Bauman then redesigned the airplane retaining the basic structure and the aerodynamic arrangement of the wings and tail surfaces. He designed a new fuselage that featured tandem seating for two with open cockpits and a more powerful engine, and with these changes it became an aerobatic trainer.

This was in early 1939, a period when pilot training was escalating at a rapid rate, and there was an increasing demand for suitable primary and basic training aircraft. Bauman felt that his new design, then still only in the blueprint stage, would make an ideal airplane for the recently formed CPT Program. To get the program started, however, he needed financial backing and a suitable manufacturing site, and so he went looking for a suitable production facility.

By good fortune Bauman heard of a group of prominent businessmen from Menominee, Michigan who were trying to attract new business to that upper peninsula city. The city and the county had recently joined forces and had already started to build a new airport within two miles of the downtown area. It was felt that an aircraft manufacturing plant would make an ideal business adjacent

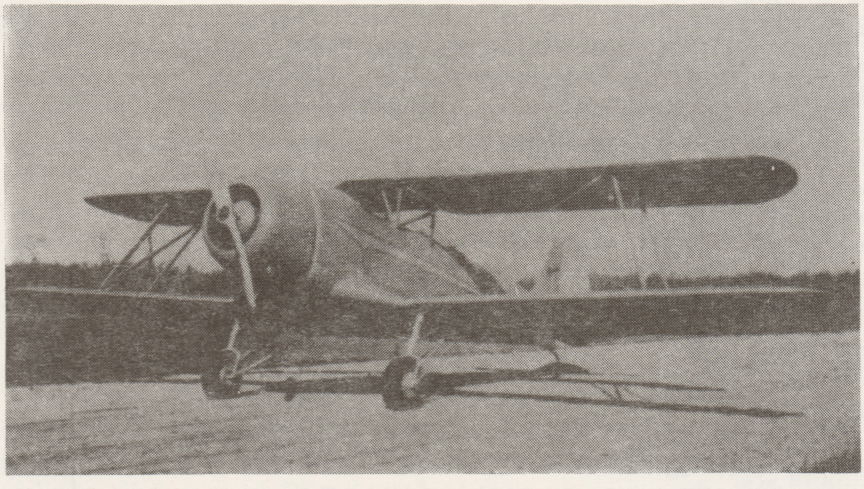
to the new airport, and the group offered to erect a building if Bauman was interested.

In early 1940 Bauman moved to Menominee to establish the Mercury Aircraft Company. Bauman became President and Chief Engineer with R.D. Smith as General Manager and F.L. Betts as Sales Director. Smith and Betts were from the Menominee area and supplied the financial backing to get the company started. Bauman, who at one time had worked for Taylorcraft, was able to attract some ex-Taylorcraft technicians and aircraft mechanics to Menominee, and they formed the nucleus of the new staff. Other workers were hired locally with no previous aircraft experience and were trained by those more familiar with aircraft construction.

When Bauman first arrived at Mercury neither the new airport nor the new plant were completed. In order to get started Mercury Aircraft rented a building in the downtown area of Menominee that had been a warehouse for the Northern Hardware Company. It was at this location on 6th Avenue that Bauman completed the final design of what was to become the Mercury BT-120. Because the new factory was still not finished, and the new company was anxious to start building airplanes, construction of the first prototype was started in this same building. The first airplane to be completed carried registration number NX20471 and featured a fixed landing gear instead of the retractable type used on the Knoxville-built cabin airplane. It was test flown from the old Menominee airport located five miles north of town because the new airport was still not finished. The first flight was made by Wally Arntzen, an experienced local pilot, in the winter of 1940.

The first Aerobat Trainer was painted all red with white trim and featured a neatly shaped landing gear fairing covering the struts and the wheels. The wing span was 27ft. 5 in. for the aft-staggered upper wing, and 31ft. 1.5in. for the lower wing. The chord of both wings was 48 inches which gave a total wing area of 228 square feet. The airfoil was the popular NACA 2412 which has gentle handling characteristics, ideal for a training plane. The overall length of the fuselage was 27 ft. 5 in. and the two open cockpits were located with one in front of the upper wing support "N" struts and the other behind. This arrangement gave excellent visibility for both the student and the instructor, who sat in the rear seat. Construction was conventional for that time period. The fuselage used a gas-welded 4130 steel tube structure with wood fairings and was fabric covered. The lower wing stubs were part of the fuselage structure and supported the landing gear as well as the lower wing panels. The wings employed spruce spars with stamped aluminum alloy ribs. They had sheet aluminum leading edges and were fabric covered. Tail surfaces were built up from steel tubing with steel channel ribs and were also fabric covered.

The Aerobat had an empty weight of 1250 pounds and a gross weight of 1800 pounds, giving a useful load of 550 pounds. The wing loading was 7.9 pounds per square foot. It could carry 20 gallons of fuel, and with a fuel consumption of only 6.7 gallons per hour, this gave the airplane a cruising range of 300 miles.



A view of the Mercury "Aerobat" Trainer showing the negative stagger on the wings. The lower wing had 44 in. greater span than the upper wings. (Mercury Photo)

The powerplant for the Aerobat was changed from that used on the cabin version built in Knoxville. Instead of the Allied Monsoon engine, the trainer used a seven cylinder Ken-Royce radial engine developing 120 hp at 2225 rpm. The Aerobat had good performance with a maximum speed of 115 mph and a cruising speed of 100 mph. The rate of climb was 750 feet per minute and it had a service ceiling of 10,000 feet.

On July 30, 1941 the Aerobat was awarded an Approved Type Certificate, number 744, by the CAB. Unfortunately, by that date the company still had no firm orders for the new airplane. A sales tour of the Midwestern states was made

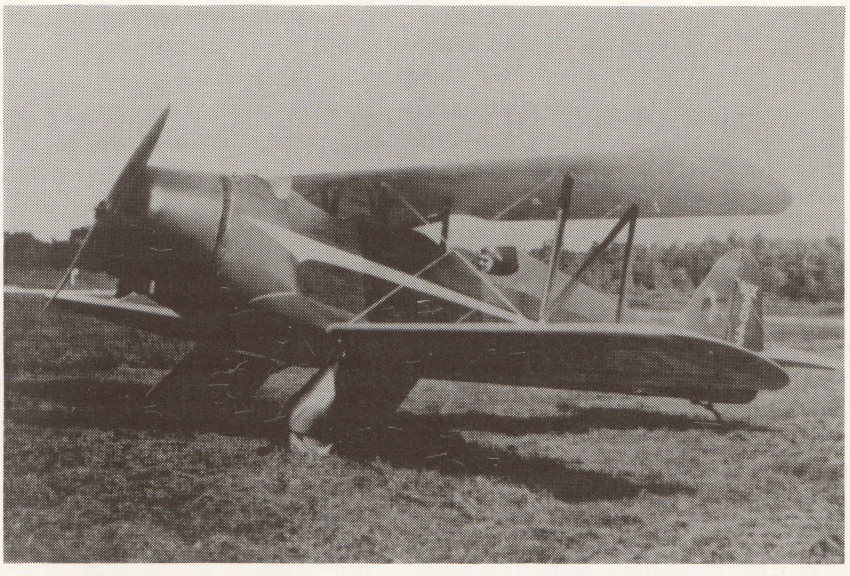
during the summer of 1941 to try and sell the Aerobat to the many CPTP training schools in that area, but met with little success. Most of these pilot training schools had already bought either the Waco UPF-7 or the Meyers OTW as their primary or aerobatic trainers and there was little interest in the new Mercury airplane. The prototype was eventually sold to a CPTP flying school in Coffeyville, Kansas.

In the meantime the employees of Mercury Aircraft moved into a new building located on the east side of the new Menominee County airport. There they completed Aerobat number two which carried registration number NC33900 (the "NC" indicated that it had received its Approved Type Certificate). It differed slightly from the prototype in that it had exposed landing gear struts with no fairings and a smaller rear headrest for the instructor. This airplane was test flown from the new Menominee airport by Mercury's test pilot Sievert "Slim" Sauer. Unfortunately Mercury still had not received any production orders for the Aerobat and so the number two airplane was sold to a flight training operation in Zanesville, Ohio.

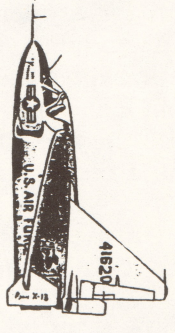
In late 1941 Bauman left Mercury to become Chief Engineer of the Frankfort Sailplane Company in Joliet, Illinois. Mercury Aircraft Company then reorganized in January 1942 with R.D. Smith as Vice President and R.G. Murphy as Sales Manager. Cameron N. Lusty became the Chief Engineer replacing Jack Bauman and engineering work continued on trying to improve the existing design. One proposal was a conversion from the Ken-Royce engine to a 132 hp Franklin, but this change was never made.

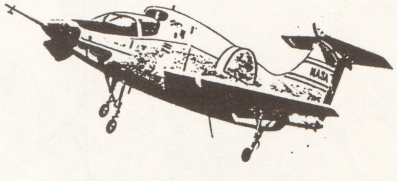
Parts had originally been fabricated for five airplanes, and after the reorganization a third airplane was completed. It is not known if this airplane was ever flown. The airframe ended up on a used-car lot in Menominee, where it was on display for a number of years. It was eventually sold to a local man who converted the fuselage and engine into a propeller driven ice sled. Shortly after the third airplane had been assembled, in late January 1942, the company closed its doors and disposed of the remaining stock of parts. This marked the end of the Mercury Aircraft Company and the Mercury BT-120, one of Michigan's lesser-known airplanes.

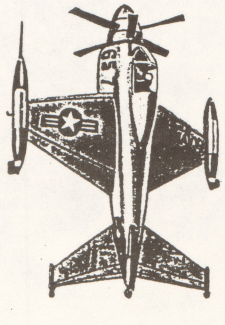
A few years after World War II Jack Bauman introduced a new airplane, the Bauman "Brigadier". This was a six-place high-wing twin-engine design similar in appearance to the very popular Aero-Commander series. On the Brigadier, however, the engines were installed facing aft with the propellers in a pusher arrangement. This airplane never proceeded beyond a single prototype that was built in the mid-50's in California. And the building in which the second Mercury Aerobat was built has been enlarged many times over, and is now the home of the Enstrom Helicopter Corporation, one of Michigan's most successful aircraft manufacturers. ✪



The prototype Mercury "Aerobat" (NX-20471) showing the clean lines of this aerobatic biplane. Note the fully enclosed fairings over the wheels and landing gear struts. (Mercury Photo)







GEORGE WHITFIELD To Lead YAF

by Jim Hanford

The man who will lead the Yankee Air Force into the next decade is President-elect George Whitfield. Whitfield is perhaps best known as the Crew Chief of the PB4Y-2; however, he is also a charter member who has worked on the B-17 and B-52 crews, and has served four years as a director. He is 68.

Whitfield was born in Hurdle Mills, NC, some 17 miles northeast of Durham. His father was a salesman, and his mother taught school. George attended high school in Durham and Roxborough, and played football and baseball.

After graduation he entered the University of North Carolina at Chapel Hill, residing in the home of the university president. In those days it was common for students to work while attending college, and George answered the president's phone in exchange for a room. He made the freshman football team as a center and blocking back.

During his first year the Japanese bombed Pearl Harbor. At the end of his freshman year, George enlisted in the Army Air Corps. He took basic training at Maxwell Field, Alabama, after which he completed the Airframe and Engine Mechanics course at Keesler Field, Biloxi, Mississippi. He subsequently spent 17 months as a B-24 mechanic and flight engineer at the B-24 Pilot Training School at Smyrna, Tennessee. Following this he was assigned to the AAF field at Tyndall, Florida (from whence came the YAF's F-102).

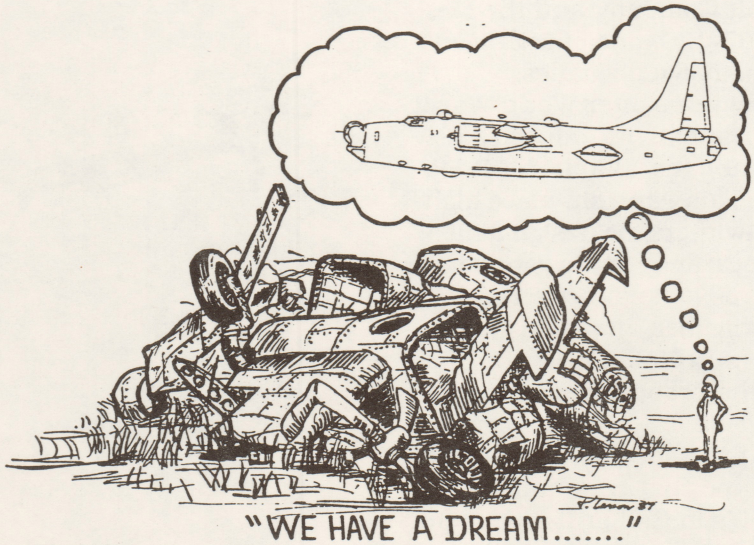
In 1945 Whitfield was transferred to the B-24 Transition School in Hangar 2041 at Willow Run, the future home of the Yankee Air Force. It was during this tour that he met his future wife, Harriet Quandt of Allen Park. When the war ended George was stationed at a newly-opened airfield at Ephrata, Washington. He recalls the AAF procedures to ensure that U.S. Government equipment did not fall into unauthorized hands. Brand new wrist watches were smashed, and flight jackets were cut up and buried. He vaguely recalls that an entire B-24 Liberator was also buried at Ephrata.

After being discharged, George returned to the University of North Carolina, graduating in 1950 with a bachelor's degree in marketing. He then moved back to Michigan, where he sold heavy construction equipment until his recent retirement.

In addition to his aviation experiences in WW II, Whitfield is a private pilot and former owner of a Cessna 172K. He belongs to AOPA, AARP, EAA, the Elks, the Dearborn Athletic Club, and the First Methodist Church of Dearborn. He is a Master Mason and a 32nd Degree Shriner (Scottish Rite). The Whitfields have two children; Jean Carrol is a social worker at Children's Hospital, and David is an optician.

In response to the question why he sought the presidency of the Yankee Air Force, he indicated that he wants to get the organization going in the right direction. Some of the goals which he has set include (1) bringing back members who have dropped out, (2) establishing additional divisions, and (3) providing greater incentives for members to belong. In support of the last goal he suggested allowing family members of YAF members to visit the museum free of charge, and authorizing YAF members a discount on items purchased in the gift shop. Another goal he will pursue is accreditation of the YAF as a museum, so it can more easily attract outside support.

Throughout the interview George drew heavily on anecdotes about people he has met and worked with through the years. Perhaps he summed it up best when he said, "I can go back any place where I've been, and I have a lot of friends." *Yankee Wings* joins the membership in wishing him the best of administrations. ✪



"WE HAVE A DREAM....."
GEORGE 1987

TALE SPINS

by Jack B. Stankrauff

LEST WE FORGET... PEARL HARBOR: A Personal Refelction

Softly the salt-tinged breeze blew from the Pacific as the Navy tour boat pulled alongside the marble monument over the battleship *Arizona* on that sunny Christmas Day. The Pearl Harbor Naval Base, basking under the light blue Hawaiian sky was empty except for a squat black nuclear submarine, two destroyers, a mine sweeper, and two tug boats tied up at their berths.

It seemed to me (an offspring of the late 1930's) incredible that over 46 years ago (maybe in soft, balmy weather like this) carrier air power, in one hour and fifty minutes, turned Pearl Harbor into a hell-filled cauldron of burning oil, strafing fighters, exploding ships, torpedo planes sending their deadly missiles into Battleship Row, screaming and dying men, brave men - starting a war which would plunge the entire globe into armed conflict.

This treacherous attack awakened America's industrial might, instilling into her people an iron resolve to bring the aggressors to their knees in unconditional surrender. The aircraft carrier and its planes would now be instrumental weapons which would change naval warfare forever.

We slowly filed off the tour boat to the gangway leading to the gleaming white memorial. It was like entering a cathedral, a national shrine, filled with serenity, yet sadness and bravery. Here, from a nation's rallying cries, "Remember Pearl Harbor!" and "Remember the Arizona!", arose to galvanize the United States into action.

It impressed me that most of this group of tourists were Japanese. They strolled through the memorial where, in marble and bronze, are listed the 1,177 names of the fallen crew members. (Of these, 1,102 are still entombed in the rusting hulk below the greenish-black water of the anchorage.)

One silver-haired Japanese gripped the railing and stared at the rust-red aft turret sticking

Honolulu Star-Bulletin 1st EXTRA

WAR!

SAN FRANCISCO, Dec. 7.—President Roosevelt announced this morning that Japanese planes had attacked Manila and Pearl Harbor.

OAHU BOMBED BY JAPANESE PLANES

above the surface of the water. He bowed his head, removed the lei from around his neck and gently threw it into the water. Perhaps he was aboard one of those attacking carrier planes, perhaps he had lost a relative who flew in the attack. Perhaps...but I would not and did not disturb this man's moment of reverence in honoring the fallen.

I also felt a feeling of reverence when I read the words on the Arizona Memorial:

"...From this day to the end of the world, but we in it shall be remembered - We few, we happy few, we band of brothers; For he that today shed his blood for me shall be my brother.."✪

VTOL: Yesterday's Experiments for Tomorrow's Aircraft

by Jim Hanford

The helicopter has been constantly improved since the end of WWII. The piston engine has been replaced by a lighter and more powerful turbo engine, while new rotors afford better handling and speed. The same rotor which provides lift, however, will not allow the craft to exceed certain speeds. A helicopter can not exceed 300 mph, no matter how powerful the engines.

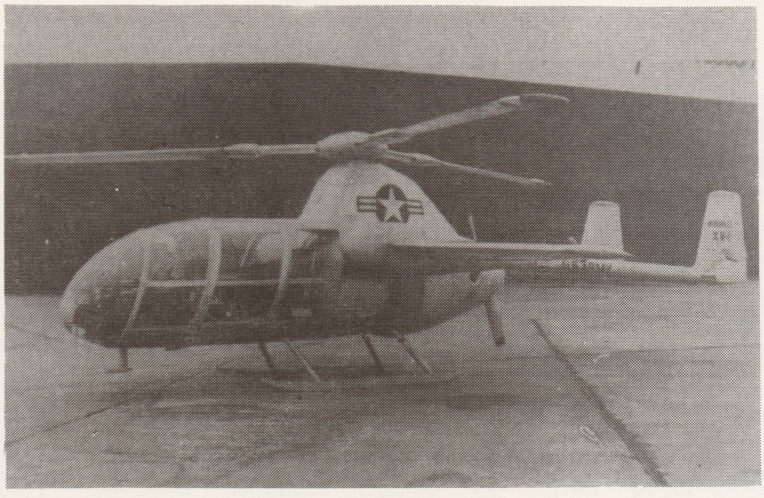
The need for a craft which combines the helicopter VTOL capability with the airplane's speed has encouraged a wide range of experimental vehicles since 1950. Initial attempts focused on a convertible, i.e., a helicopter equipped with propellers which were driven by the same engine(s) that powered the rotor. The McDonnell XV-1 is an example. The basic drawback is that the rotor hinders speed and the weight of the wing and propeller drive train hinders lift. For these reasons, the convertible proved unsatisfactory and economically unsound.

Another attempt was the vertiplane, which is best described as an airplane that takes off and lands "on its tail". Two competing examples were the Convair XFY-1 *Pogo* and the Lockhead XFV-1, which were intended to be point defense fighters for the U.S. Navy. Both flew successfully, but proved difficult to control in the close proximity of ship-board superstructure. In reality, these projects probably succumbed to the fixed deck carrier interests.

The third solution is a tilt-prop or tilt-wing craft, having propellers or wings capable of varying the line of thrust from vertical during take-off and landing, and horizontal during flight. Examples include the Bell XV-3 with tilt rotors, and the XC-142A with a tilt-wing. The V-22 *Osprey* is the latest example of this class.

The fourth alternative uses a jet engine which has directionally-controlled thrust, the most famous of which is the Hawker Harrier, also built by McDonnell-Douglas. This month's photo section offers some interesting examples of VTOL efforts. ✪

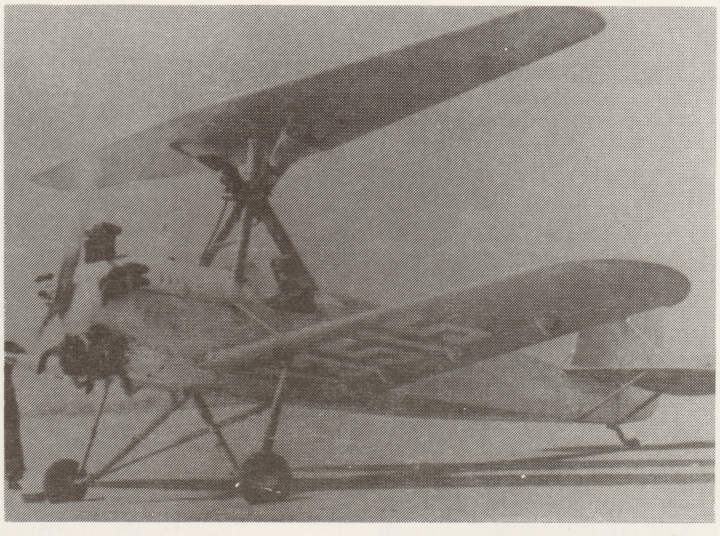
THE PHOTO SECTION



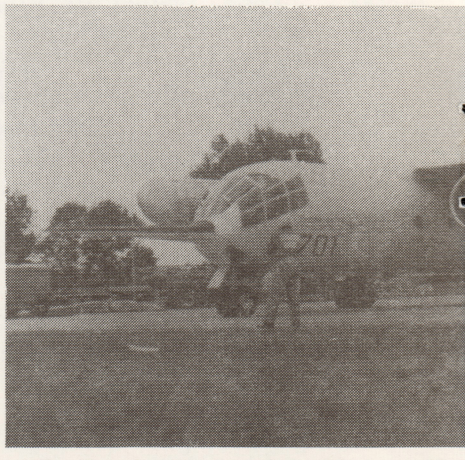
The McDonnell XV-1 (1955) carried four people. Only two prototypes were built.

The
flew

Dassault *Mirage III-*
RB.162 lift jets for t

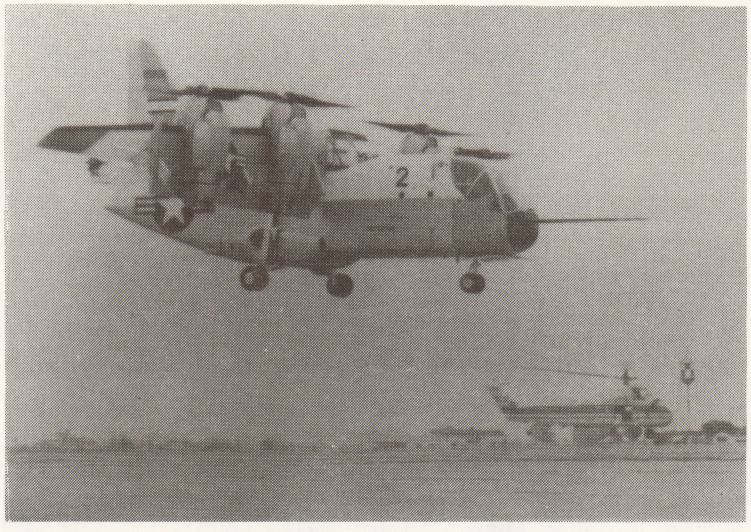


The Convertoplane was developed in the United States in the 1930's by Gerard P. Herrick, the "father of the convertoplane". It was a biplane with an upper wing that functioned either as a lifting surface or as a two-bladed teetering rotor. It made successful in-flight conversions from biplane to rotorplane in 1937.

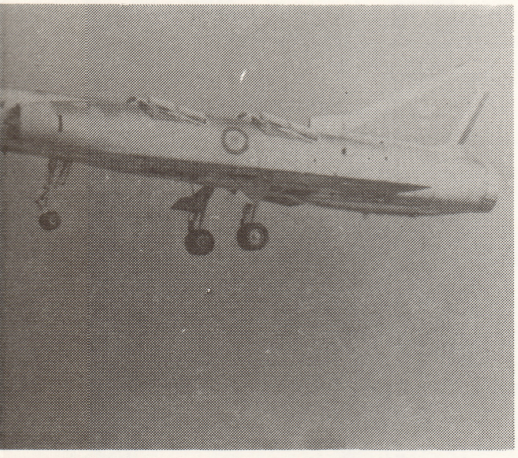


The Dornier Do 32 E3 could carry 36 f
a two-man crew. VTOL was provided b
RB.162 lift jets in each wing-tip pod. (

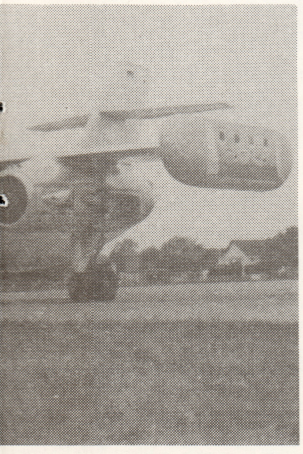
Ryan XV-5A employed the "fan-in-wing" principle; first
in May, 1964.



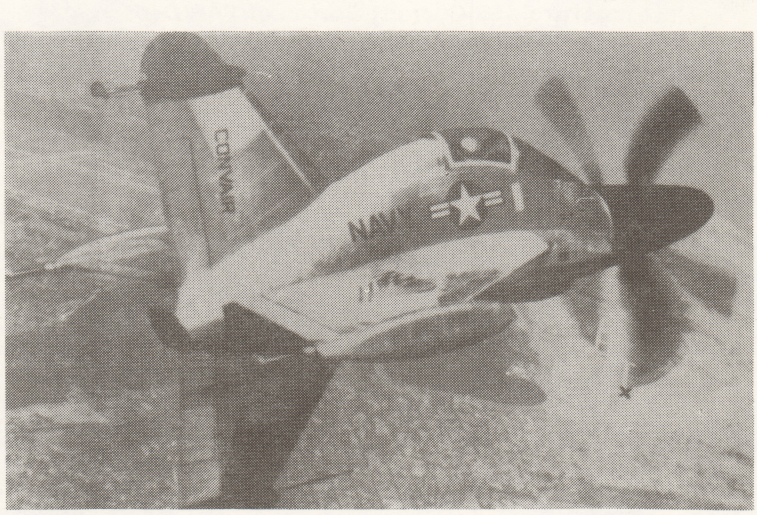
The Hiller-Ryan-Vought XC-142A tilt-wing first flew in 1964.
Only five were built, because faster helicopters were
available.



Balzac (1965) also used eight Rolls-Royce
he VTOL phase. (JWR Taylor coll.)



ully-equipped troops and
y four Rolls-Royce
Air Portraits)



On Aug. 2, 1954, the Convair XFY-1 *Pogo* made its first VTOL flight.

BOARD REPORT

Debt Retirement, Election Results on Board Agenda

By Jim Hanford

The thorny subject of debt retirement has consumed a significant part of the time and energies expended by board members at the September and October meetings. Earlier this year the Board established a Debt Retirement Committee for the specific purpose of dealing with the Condamatic note, which was paid off August 1, 1989 (see box below). As the committee dug into the history of the YAF debts, it became apparent that several notes have large final payments, which would necessitate a long-range plan to address. Furthermore, it was obvious that the approximately $11,000 required *every month* to operate the YAF includes over $3,600 in debt service costs. For these reasons, the Debt Retirement Committee chaired by **Joe Oberlee** has remained active to advise the Board of its alternatives.

The status of the B-25, *Gallant Warrior*, is central to any discussion of YAF debt restructuring. One of three alternatives proposed for repayment of the Condamatic note was the sale of the B-25. Toward this end the Board approved a motion to seek a buyer for the aircraft, but no serious buyer has come forth, and the note was paid from monies raised by a special member appeal and a $35,000 loan from Bank One.

At the September meeting a motion was offered to reconfigure the B-25 as a gunship to make it more attractive as an airshow participant, but the motion was tabled pending further study. A motion in the October meeting called for a more aggressive effort to find a buyer. The subject was referred to the Debt Retirement Committee for further study of projected earnings and expenses. During audience participation the question was raised about contributions made specifically to the B-25 (approximately $14,000) in the event it is sold. One explanation offered was that when the ship was purchased, the Board reserved the right to sell it, if that should become necessary. It was apparent from the comments of the audience and the Board that this is an emotional issue. ✪

1989 Election Results

Results of the 1989 election of national officers were presented to the Board for information, but were not certified because of the absence of Election Committee Chairman, **Colleen Conrad.** Over 1,200 ballots were mailed out, and 559 were returned (approximately 45%). The following candidates were elected:

President: **George Whitfield**

Vice President: **Joseph Oberlee**

Directors: **William Hanney, Walter Hart, Fergus Mann, Pat Riley, Joseph Slavik,** and **John Snider** (listed alphabetically). All proposed changes to the By-laws passed handily.

In other business the Board voted to grant an honorary five-year membership to Mr. **William Hogue**. It was through his efforts that National Industries has offered to manufacture all new wiring harnesses for the B-17, saving the YAF considerable time and money. ✪

Structure and Current Status of YAF Debt

Date	Purpose	Amount	From	Collateral	Terms	Status
9-29-82	C-47 purchase	30,000	ERIM	None	1 year	Paid off 9-30-83
6-23-86	B-17 purchase	50,000	Condamatic Co., Inc.	None	3 yrs. as free rent for PT-19 & 1400 per year to F. Day	Paid off 8-1-89
6-24-86	B-17 purchase	100,000	NBD	B-17	59@ 1190 plus 1 @ 29,761 + interest	Balloon due on 7-24-91
10-19-87	B-25 purchase	75,000	NBD	B-17	59@893 plus 1 @ 22,321 + interest	Balloon due on 11-19-92
10-19-87	B-25 purchase	105,000	G. Lamont	B-25	By 2-29-88	Paid off 9-11-88
9-11-88	B-25 purchase	30,000	W. Hart	B-25	720 to begin 1-1-90	Total of 32,400 by 9-1-94
3-2-89	Computer purch	3,006	Bank One	Computer	36 @ 101	last due 3-2-92
7-1-89	Retire Condamatic note	35,000	Bank One	C-47 & all other YAF property	48 @ 730	last due 8-1-93

Executive Director Resigns

Executive Director **Ray Hunter** has resigned effective December 1, 1989, to pursue other interests. Hunter advised President **Russ Maxwell** of his decision in a letter dated November 21, noting that he will continue to help as a volunteer YAF member, and will assist a new executive director as the situation may warrant.

"The YAF wishes him well in any endeavor he undertakes", Maxwell said. He added that any decision to fill the position will be deferred until after the new officers and directors take office on January 1, 1990.

MUSEUMOLOGY

by Brian Rogers

Women in Aviation Room

After leaving the World War I Room described in the last issue of *Yankee Wings*, the visitor next encounters the "Women in Aviation" Room. The room's purpose is describing and commemorating contributions women have made to aviation.

Dedicated May 27, 1985, the Women in Aviation Room was put together by the Greater Detroit Chapter of "The Ninety -Nines," an international group of women pilots. The group is named for the original Ninety-Nines, 99 female pilots united more than 50 years ago by women aviation pioneer Amelia Earhart.

There is much about Earhart memorabilia in the Women in Aviation Room including a chronological chart detailing the major events in her life. The chart begins with her birth in Atchison, Kansas, and concludes with her disappearance over the Pacific Ocean in July 1937. Also displayed are photographs, paintings, newspapre clippings, and books concerning Earhart's life and disappearance.

Framed on the wall is a copy of a poem by Amelia Earhart that begins,"Courage is the price that life exacts for granting peace."

Another prominent women pilot whose work is commemorated in the Women in Aviation Room is Loma May. May was born in Howard City, north of Big Rapids, Michigan, November 9, 1906. She did not learn to fly until she was past 30. She earned a life certificate from a teachers college at age 17, and at 18 was a high school principal in Memphis, Michigan, in the state's "Thumb." In addition to her administrative duties she taught senior chemistry, physics, and math.

During World War II May went to work for the Jam Handy Organization in Detroit. Combining her knowledge of aviation and physics, she helped develop Navy Trainer 3A-2, a device used to train gunners in deflection gunnery.

The lady pilot remained at Jam Handy after the war and in 1968 was elected to the firm's Board of Directors. Ms. May was a life member of The Ninety-Nines and was a personal friend of Amelia Earhart's sister, Muriel.

Displayed in the Women in Aviation Room is a certificate issued June 27, 1987 by the Michigan Sesquicentennial Commission honoring May for her 45-year contribution to aviation. Also displayed are one of her pilot's licenses and four of her medical certificates, along with a Certificate of Registration dated December 22, 1952 registering to Ms. May Luscombe aircraft N1407B.

Loma May passed away February 24, 1988.

There is much more displayed in Yankee Air Museum's Women in Aviation Room. There is, for example, a letter to the Greater Detroit Ninety-Nines from Milton H. Berz, Jr., manager of the Berz-Macomb Airport in Utica, Michigan thanking the ladies for painting a compass rose on his field's ramp.

Painting compass roses at airports, known as "airmarking," is a Ninety-Nines project. Photos on display show the women undertaking the task at Monroe Custer Airport. ✪

USAFM Museum Receives a MiG-21

A Soviet-designed MiG-21F fighter has joined the collection of over 200 aircraft and missiles on exhibit at the U.S. Air Force Museum. The "Fishbed C" is displayed near the MiG-17 "Fresco" in the Modern Flight Gallery. Both aircraft are shown in North Vietnamese markings to represent aircraft encountered by American Pilots in Southeast Asia.

A short-range day fighter-interceptor, the MiG-21F is the first major production version of the MiG-21 series. One or more of the type's 15 variants has been flown by pilots of over 30 nations. According to USAFM staff members, the museum's aircraft appears to have been produced and flown in Czechoslovakia. It was obtained through an exchange with a private individual.

New Museum Hours

The USAFM is closed on Thanksgiving, Christmas and New Year's Day. The museum's hours are now 9 a.m. to 5 p.m., seven days a week.

RESTORATION NEWS

B-17G

by Don Burke and Earl Hewett

SHEET METAL

Windshield

The new frame has not only been wed with the inner frame but has, as a unit, been installed as a part of the aircraft.

Waist Gun Position

The crew working on the waist gun position placed new skin in position for fitting and drilling. This new skin covered the gunner's "window".

Spar Joint

The crew working on the rear spar attach point are currently doing the last major repair of this area. There were four such repairs needed at the attach points because of cracks which were found back in June. These and many other repairs are time consuming and for the most part, may never show or be seen; they are, however, necessary.

Gear Trunions

Stop-drilling of the cracks and dye checking of this area has been completed. This area will become a part of routine inspections.

Radio Operator

Now that the spar joint repairs are nearing completion, the crew of this area has begun to drive rivets in the framing for the radio room. Another project is the floor of the radio room. It must be raised about 5 inches if the radio equipment and such are to be reinstalled properly.

Bomb Bay

Repair of holes overhead in the bomb bay also continues. The repair of the aft holes calls for more than flush patches. The circumferentials and stringers were damaged when vent holes were cut for the fire fighting tanks. Removal and replacement is the route which must be taken to complete this area.

ELECTRICAL

We now have a list of all electrical connectors needed to restore the electrical system. This is the direction which National Wire wishes to go: new wire - new connectors. The last report from National Wire (8-9-89) is that they will have wire for the entire plane here in 8-12 weeks. National Wire will send 2-3 technicians to aid in the installation of the new wire. Thanks to **Dean Green** for this lifting report.

Engines

Preparations have begun to ship #2 engine out for overhaul. The existing mounting ring in the engine shipping can does not fit our engine, therefore, a new mount was made.

Cleaning

This may be the most ongoing activity. Much help is always needed while we still have the weather on our side. Once the temperature drops the cleaning and painting stops until next spring. As reported earlier, the stress plates in the wings must be in place to move the aircraft, so without the plates the plane must remain on the jack stands.

Bomb Racks

These are still missing, and are one of our desperate needs. There was a lead for a set of racks which we missed by about a year and have no idea where they went. We could make our own racks, but finding a set would make the job much easier. ✪

**** Gotta Be Done In '91 ****

L-2

At the October Board meeting, Saginaw Valley member Bob McLaughlin provided a staus report on the restoration of their L-2. The fuselage has been sandblasted and zinc-chromated, and all control cables have been reinstalled. The fuselage is on its landing gear, ready to be covered The wings have been completely rebuilt, and are ready for covering. Covering material has been purchased, but has not arrived. The next step is to obtain hangar space so there is sufficient room to assemble the wings and rig the control cables prior to covering. Before the craft is flyable some engine work is required, including the purchase of new cylinders, crankshaft and cam shaft. ✪

Static Aircraft

F7F-3N "Tigercat"

As was previosly reported, the F7F will soon be leaving the Yankee Air Force for a destination in California. The "Tigercat" is one of the aircraft on loan from the USMC Air-Ground Museum, and all of those aircraft are subject to recall as the Air-Ground Museum's needs dictate. (In fact, word has been received that "*Darlin' Dottie*", the F-86, is also being recalled for transfer to the Marine Air Station at Camp LeJeune, NC.

The F7F is a fast, heavily armed, twin piston-engined, single-place fighter built by Grumman. The first examples arrived on Okinawa too late to enter combat in WW II. The type saw combat in Korea, however, serving from June 1950 to May 1952, when it was replaced by jet aircraft. Our aircraft, U.S. Navy Bureau Nbr. 80382, was delivered to the Navy as an F7F-3 on March 28, 1945, and set as unofficial coast to coast speed record later that year. The ship served with the Marine Fighter Squadrons 911, 582, 422, and 222 until June 1946, when it was placed in storage at Elizabeth City, NC.

The Aircraft's history between 1948 and 1956 is unknown, but sometime during the period it was converted to an F7F-3N night fighter. In 1956 Bu. No. 80382 was assigned to MCAS Cherry Point, NC , and in 1959 it was

transferred to the Naval Weapons Center at Dahlgren, VA. It went to the Air-Ground Museum at Quantico, VA in 1969. Subsequently the "Cat" was transferred to NAS Pensacola, from where the YAF obtained her in August 1985. (The above information is from **Roger Peterson's** article in the November 1989 *Hangar Happenin's.* - Ed.) ✪

Privateer

Work continues in many areas, such as the plexiglass nose, sheet metal along the left side of the bomb bay, the electrical system, control cables, and especially the hydraulic system. A new hydraulic tank and accumulator are in the process of being installed, however the hydraulic system still needs a cross-over valve. Anyone who knows where one may be obtained is requested to contact Crew Chief **George Whitfield**. **Don Gallagher** has been sorting out the control cables.

Among the large number of visitors on Founder's Day weekend was a former B-24 crew getting reunited for the first time. Although our aircraft is a PB4Y-2, it was so similar to the B-24 that it brought back many memories of the aircraft they once flew. (Above information excerpted from **Al Scotford's** article in the November 1989 *Hangar Happenin's.* - Ed.) ✪

B-17 Co-op Meets In Houston

by Nancy Lockwood
B-17 Crew Secretary

The semi-annual B-17 co-op meeting was held in Houston, Texas, hosted by the CAF Gulf Coast Wing, *"Texas Raiders"* crew led by John Hess on November 11 & 12, 1989.

Yankee Air Force B-17 Crew Members attending to represent *"The Yankee Lady"* were: **Fred Lockwood** - B-17 Crew Chief, **Norman Ellickson** - B-17 Inspector, **Bill Rogers** - Co-ordinator, **Nancy Lockwood** - Secretary, **Charlie Greenwald, Dick Bodycombe, John Ellickson, Les Kellogg, Bette Watson, Louise Greenwald**, and **Kathy Rodgers.** (At each individual's personal expense.)

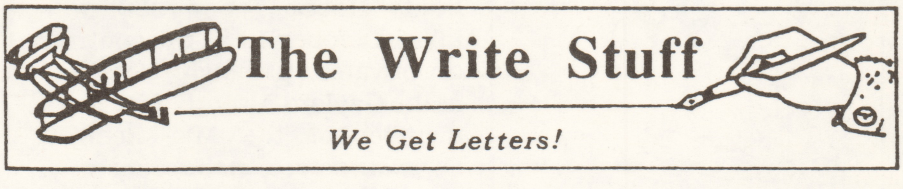
The group flew out commercial airlines, and the round of meetings started Saturday morning and ran through Sunday. Sunday afternoon the Raiders hosted a trip to the NASA Johnson Space Center, and a ride in the *"Texas Raiders"* B-17.

B-17's represented in addition to the *"Yankee Lady"* were:
"Sentimental Journey" - by Jim Peters and Frosty Arden.
"909" - by Bob Collings and Scotty Royce.
"Texas Raiders" - by John Hess, Everett Gibson, Dellon Bumgardner (Maintenance), Pat Elliott, Ben Anderson and Gary Judkins.
"C Cup" - by Museum of Flight, Seattle, Washington. Bob Richardson, Gary Hill, Whitey Rickert, Susan Kennedy, and Mark Weiner.
"Fuddy Duddy" - by Skip Lemmon and Ed Hopkins
"No Name" - by Dave Tallichet
"Memphis Belle" - by Dr. Harry Friedman
"Chuckie" - by Doc. and Chuckie Hospers, and Michael Coup.
"Thunderbird" - by Jim Faust of the Lone Star Museum, and Tommy Garcia - Technical Advisor.

Besides the usual B-17 restoration and parts discussions; i.e. searching, trading and building/manufacturing, there was discussion on airshows vs. barnstorming and charging appearance fees for airshows and costs. Other topics included show and tell, movie contracts, F.A.A. requirements/regulations, advance advertising importance, and insurance.

We had a tour of the Lone Star Museum and Nancy made a copy of the instrument panel outline, while several crew members took pictures of critical areas we are currently rebuilding. We even returned with a few parts traded, after taking some ribbing about midnight requisitions.

The E.A.A. has requested to host the next B-17 co-op in Oshkosh, WI, however a firm date has not been committed yet (March or April). Of importance is that this is the first time that the B-17 Co-op has been recognized by either the E.A.A. or the C.A.F. Previous meetings attended by Sentimental Journey crews were entirely as interested individuals (Frosty Arden and Jim Peters) at their own expense. We have to date not had any Oshkosh representation. ✪



Dear Mr. Hanford,

Congratulations on your latest issue of *Yankee Wings*. As a non-member I was fortunate to be able to read your publication. Of particular enjoyment and education was the "Tailspins" article on blimps!! It's always exciting to see them in flight - but I never could find the answers to all those little and big questions that I and my children have always had. The photo page complemented Mr. Stankrauff's thoroughly researched presentation. I hope your magazine goes to libraries so that more people can enjoy and learn at the same time.

Sincerely,
Isabel Onate Sands

YAF PEOPLE

Barbara and **Don Sutton** vacationed in San Francisco approximately two weeks before the earthquake. On their last morning in San Francisco Barb though she saw a familiar face in a restaurant. She walked up and asked, "Are you from Michigan?" When he answered "Yes", she asked, "Aren't you a member of YAF?" He replied,"Yes, Barb. What are you doing here?" "He" was fellow Willow Run member **Ken Larson**, also vacationing with his wife.

Willow Run member **John A. Grudzien,** an employee of the Hudson's Fairlane Mall department store, has been awarded the Dayton Hudson Company's VIP (Volunteer Involvement Program) award for his services in the museum area of the Yankee Air Force. A contribution of $250 has been made to the YAF in his name. Thumbs Up to John!

Another Willow Run member, Michael Erard, has been recognized by his selection into the Michigan Aviation Hall of Fame. Mike formerly served as a member of four military air forces; i.e. the Michigan Air National Guard, the French Armee de l'Aire, the USAAF, and the U.S. Naval air arm, in an aviation career which spanned over 50 years - and all without an accident. Thumbs Up to Mike! ✪

URGENT!! HELP DESPERATELY NEEDED!!

Staff is urgently and desperately needed for the Gift Shop, Tour Desk, and Hangar Maintenance. If we are to have the museum open to the public we must have staff. The Gift Shop and Tour Desk must be manned Tues. through Sun. 10am to 4pm. At least two staff persons per day are needed in each area.

Will you give at least one day a week? We MUST build more staff and only you can help us. The Hangar Maintenance, the day-to-day dust up, straighten up duties are not hard but need manpower to keep us looking "Best Foot Forward". It may not be as exciting as working on aircraft, but it is just as important. Can you give at least one day a week? Sure you can.

Call the Hangar at 483-4030 and offer to help keep your museum open.

Barb Sutton , Facilities Manager

In Memory...

Louis Hook (YAF #1360) was killed October 13 at the controls of a private airplane which crashed at the Gaylord Airport. Lou was a member of the Mid-Michigan Division, served on the ramp crew, and belonged to the Michigan Air National Guard and the Civil Air Patrol, which bestowed upon him the rank of Captain (posthumously). He was a retired American Airlines mechanic.

Edmond Teliczan (YAF #231) passed away recently in Grand Rapids. Ed served in WW II with the Eighth Air Force, and flew in B-24's our of England.

by Charlie Lingenfelter

Congratulations and welcome to the following (28) new members to the Yankee Air Force:

Willow Run Division - 3422 Kim Ewen, 3423 Jerome Millward, 3424 Jack A. Mattila, 3428 Tony Krupa, 3429 Mary Ann Bittner, 3430 Arthur W. Teel, 3431 Gary R. Martin, 3432 Harold R. Dressler, 3433 Tod Towne, 3434 Terry J. Keating, 3436 Don Wagner, 3437 Robert L. Hutchinson, 3442 John Stec, 3443 James Stec, 3444 Bernard L. Delong, 3445 Trevor A. Laws, 3446 Jason F. Lindauer, 3347 Arthur O. Catt, 3448 Allen Vehrs, & 3449 William L. Dumont.

Northeast Division - 3425 Robert P. Egan, 3426 Larue W. Myers, 3427 Gary Wright, 3440 Kris Pamiello and 3441 Dave Bassett.

Wisconsin/Illinois Division - 3435 Glenn Eisenbrandt, 3438 David W. Loveland and 3439 Philip M. Curtis.

ATTENTION

A membership application form is being published in this issue of the Yankee Wings for your use in enlisting a new member. Please remove it from this publication and promise yourself that you will sign up at least one new member this year. A Yankee Air Force membership also makes a very suitable gift for a relative or friend.

SOMETHING·SPECIAL
The Country Store
85 kercheval
grosse pointe farms, mi 48236
884-4422
sandy gillespie

YANKEE AIR FORCE, INC.
YANKEE AIR MUSEUM

NATIONAL HEADQUARTERS
P.O.BOX 1100
YPSILANTI, MI 48197
(313) 483-4030
Located on the EAST side of
Willow Run Airport off Beck Road

The Yankee Air Force is not a military organization or a branch of the U.S. Government

MEMBERSHIP APPLICATION FORM

MINIMUM AGE (18)

Please Print

Name _____ Home Phone ( ) _____

(Badge Name) _____

Mailing Address _____ Office Phone ( ) _____

_____ Date Of Birth _____

City State Zip

Occupation _____ Retired YES NO (please circle)

Employer _____

Introduced by _____ (Member name and number)

(Not required for membership)

Division - ☐ Willow Run ☐ Mid-Michigan ☐ North East ☐ Saginaw Valley ☐ Wisconsin/Illinois ☐ Atlantic Coast

Type of membership requested: (check one)

- ☐ **General - $45** ($35 dues, $10 initiation fee)
- ☐ **Associate - $35** ($25 dues, $10 initiation fee)
- ☐ **Lifetime** (one time dues $500)
- ☐ **Senior Lifetime** (60 Years or Older) (one time dues, $250)
- ☐ **Conditional Life Membership Available** (regular or senior)
- ☐ **Corporate** (annual dues $500)

☐ VISA ☐ MasterCard Signature _____

Account Number | | | | | | | | | | | | | | | | | Exp. Date _____

Total amount enclosed: $_____U.S. Funds only

I understand that my name, address and telephone numbers may be given to Yankee Air Force Members. (For Yankee Air Force Business only)

Applicant's Signature_____ Date_____

All Volunteer, Non-Profit Organization
All contributions are tax deductible as provided in U.S. tax law.
Please fill out other side of form.

REVISED JUNE 1, 1989

Check the activities below which you are willing to participate in:

(Please number in order of preference)

- ☐ Aircraft Acquisition
- ☐ Aircraft Recovery / Restoration
- ☐ Flight Operations (Pilots / Mechanics)
- ☐ Finance / Gift Shop (Sales & Cashiers)
- ☐ Museum Tour Guides
- ☐ Museum Display / Development
- ☐ Hangar Restoration / Operation
- ☐ Publications
- ☐ Special Events
- ☐ Secretarial / Word Processing
- ☐ Administration
- ☐ Photography
- ☐ Programs (Membership Meeting)
- ☐ Public Relations / Publicity
- ☐ Accounting
- ☐ Membership Staff
- ☐ Fund Raising
- ☐ Security / Fire Prevention / Safety
- ☐ Library Staff
- ☐ Janitorial / Housekeeping
- ☐ Grounds Keeper
- ☐ Legal Advisor

Would you be willing to volunteer your services in areas other than indicated above? ☐ Yes ☐ No

Please list any special expertise you have or contacts which might be beneficial to the location, restoration, or flying of vintage aircraft; restoration and maintenance of buildings or hangars; administrative, legal, engineering, publicity, etc._____

_____

_____

_____

How did you first learn about the Yankee Air Force?_____

The following information is optional:

Are you a pilot?_____ Total Flying Hours_____

What types of aircraft have you flown ?_____

_____

Ratings_____

Are you a certified mechanic?_____ Rating_____

What aircraft, engine, or instrument types have you worked on?_____

_____

_____

_____

Comments or additional information you would like to submit: _____

_____

_____

DIVISION NEWS

WILLOW RUN

At the September meeting of the National Board, Executive Director Ray Hunter advise that the University of Michigan has temporarily leased space in the hangar for a radar experiment. Director Barbara Sutton reported that a door bell has been installed on the hangar door. Other tasks which have been accomplished outside the hangar include the addition of electrical outlets, replacement of signs at the end of the building, cleaning out the boiler house and the exterior grounds, and the addition of safety lines to the roof. The next outside jobs will be to complete repairs of damaged siding, and repair the roof and install gutters over the new location of the library and office area.

Sutton also mentioned that the Saturday lunch detail needs short-run help. This is a vital service, because it is instrumental in members' decisions to no leave the hangar for lunch (and possibly cut short their work plans), and the service normally realizes over $80.00 of revenue each week.

MID-MICHIGAN DIVISION

The MMD Council is considering moving the Division's meetings to Dalton Airport in Flushing, approximately 16 miles north of Bishop Airport. They would share those facilities with an EAA chapter. Although the long-term possibilities of remaining at Bishop Airport are significant, the short-term advantages of nesting with the EAA are especially attractive. While no decision had been made at press time, one can be expected soon.

It was announced that henceforth all MMD evening meetings will begin at 7:30 pm in lieu of 7 pm. The arrival of a scheduled airliner at 7 pm has resulted in too much disruption of MMD meetings because of competition for limited parking space.

WISCONSIN/ILLINOIS STATELINE DIVISION

Members requested that the third (non-working) dog tag machine at Willow Run be transferred to them for repair and use in fund-raising. The request was approved by the Board, and the machine will be sent when transportation can be arranged. It was also noted that the division recently made $500 contribution to the B-17 restoration fund. A YAF "Thumbs Up" to the Stateline Division!

The **NORTHEAST DIVISION** garnered several favorable media reports as a result of their role in the construction and dedication of an edifice on September 24th commemorating the accomplishments of Jimmy Doolittle. The October issue of *The Yankee Clipper* contains reprints of four different articles appearing in *The Newark Sunday S tar Ledger* over the past three months. Each article mentions the Northeast Division involvement, and provides positive reinforcement of the objectives of the Yankee Air Force. NED members who served on the committee included **Otto K. Meuller** - Chairman, **Dr. Herbert O. Fisher** - Vice Chairman, **John D. Golderer, Oscar Nathans,** and **Raymond Golowach.** Thumbs Up to the Northeast Division!

ATLANTIC COAST DIVISION

Eleanore Maszczycki has resigned as secretary of the Atlantic Coast Division. **E. John Monsport** will act in this capacity until a replacement is found. ✪

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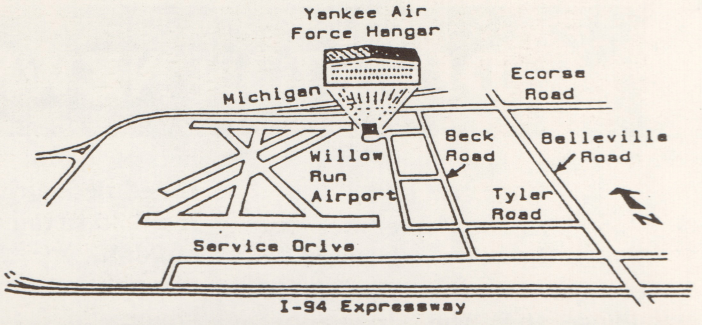
YAF HEADQUARTERS - WILLOW RUN AIRPORT

Take I-94 to Belleville Road exit, North to Tyler Road, west to Beck Road, turn right and enter through second gate on your left. Or take I-275 to exit 20 - Ecorse Road. Take Ecorse Road west to Beck, proceed south to first gate on your right.



CALENDAR

JANUARY 1990

3 - Headquarters Division General Membership (WR)
3 - Northeast Division Council - 7:00 (NE)
4 - Wisconsin/Illinois Division General Membership (WI/IL)
6 - Security Committee - 10:00 (WR)
6 - Restoration Crew - 2:00 (WR)
9 - Saginaw Valley Division Council (SV)
9 - Membership Staff (WR)
16 - Saginaw Valley Division General Membership (SV)
17 - B-17 Crew (WR)
17 - Mid-Michigan Division General Membership (MM)
17 - National Board of Governors (WR)
17 - Northeast Division General Membership - 7:00 (NE)
17 - USAFM Speaker:"History of the Air Commandos" - BGEN. Aderholt
18 - Publication Staff (WR)
23 - Wisconsin/Illinois Division Council - 7:00 (WI.IL)
24 - Mid-Michigan Division Council (MM)

FEBRUARY 1990

1 - Wisconsin/Illinois Division General Membership (WI/IL)
7 - Headquarters Division General Membership (WR)
7 - Northeast Division Council - 7:00 (NE)
10 - Security Committee - 10:00 (WR)
10 - Static Restoration Crews - 2:00 (WR)
13 - Saginaw Valley Division Council (SV)
13 - Membership Staff (WR)
14 - B-17 Crew (WR)
14 - Mid-Michigan General Membership (MM)
15 - USAFM Speaker:"Women in the Military" -MGEN. J. M. Holt
20 - Saginaw Valley Division General Membership (SV)
21 - National Board of Governors (WR)
21 - Northeast Division General Membership - 7:00 (NE)
22 - Publications Staff (WR)
27 - Wisconsin/Illinois Division Council - 7:00 (WI/IL)
28 - Mid-Michigan Division Council (MM)

NOTES:

- All meetings begin at 7:30pm, unless otherwise noted.
- An entry marked with an asterisk (*) indicates more information may be found elsewhere in this issue.
- Any additions or corrections to the calendar should be submitted to Jim Hanford, Tel. (313) 562-3283, by the copy deadline shown on page 2.

YANKEE AIR FORCE
P.O.Box 1100
Ypsilanti, MI 48197

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